

**REMARKS**

**I. Introduction**

Claims 1-7 and 10-21 are currently pending in the present application. Claims 8-9 have been withdrawn. By the present amendment, claims 1-6 have been amended, and new claims 10-21 have been added. Support for the amendments can be found, e.g., in the specification on page 8, lines 6-11, page 6, lines 21-25, and page 7, lines 14-19, and also in the original claims as filed. No new matter has been added by the present amendment. Applicants respectfully submit that the pending claims are patentable for at least the following reasons.

**II. Election/Restriction Requirement under 35 U.S.C. § 121**

The Office Action restricted the claims as follows:

1. Claims 1-7 directed to cyclic ketone peroxide formulations.
2. Claims 8-9 directed to a process of using the cyclic ketone peroxide formulations.

The Office Action alleges that the inventions of groups 1 and 2 are independent and distinct. Applicants respectfully submit that the compositions and process claims relate to the same invention and are not considered independent and distinct. The subject matter of all the claims are related such that a search and examination of the entire application can be made without serious burden. (See, e.g., U.S. Pat. No. 6,358,435 claiming both cyclic ketone peroxide compositions and (co)polymerization processes using such compositions). In fact, the claims of group 2 actually depend (directly or indirectly) from claim 1 in group 1. Therefore, groups 1 and 2 are part of the same invention.

However, in order to expedite prosecution, Applicants elect the invention of group 1 with traverse and reserve the right to prosecute claims 8 and 9 in the same or a divisional application.

**III. Rejection of Claims Under 35 U.S.C. § 102 or § 103**

Claims 1-7 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by or under § 103(a) as allegedly obvious over WO 96/03397 (Torenbeek), WO

98/33770 (Schuurman WO '770), U.S. Pat. No. 5,932,660 (Meijer), or U.S. Pat. No. 5,907,022 (Stigter). Applicants respectfully submit that these references do not render the pending claims anticipated or obvious for at least the following reasons.

As amended, claim 1 now requires (1) a phlegmatizer in addition to the cyclic ketone peroxide and the co-crystallizing compound; (2) a co-crystallizing compound selected from the group consisting of "non-heteroatom-containing hydrocarbons, ester phosphates, esters and carbonates selected from dicyclohexylphthalate, methylpalmitate,  $\alpha$ -naphthylacetate,  $\beta$ -naphthylacetate, phenylbenzoate, ethyl diphenylacetate, dimethyloxalate, trimethylene carbonate, pentamethylene carbonate, hexamethylene carbonate, methylacetyl salicilate, dimethyl phenylmalonate, methyl p-vinylbenzoate, methylhydrogen succinate, and mixtures thereof;" and (3) that the co-crystallizing compound be "in an amount of 0.1% to 10% by weight of the formulation."

Torenbeek does not disclose the three-component co-crystallizing compound, phlegmatizer, and peroxide composition recited in claim 1. The liquid phlegmatizer component in the cited reference "is generally present in an amount of 10-99% of the composition," which is outside the scope of the claims. (Torenbeek, p. 7, lines 10-13). The Office Action also admits that it is "unclear if the specific species of phlegmatizer/diluents . . . actually read[] on applicant's claimed co-crystallizing compounds." (Office Action, p. 7). The reference provides no motivation for the skilled artisan to select from its disclosure (i) a cyclic ketone from the list of peroxides, and then find (ii) a compound from the list of phlegmatizers having a solidification temperature above the crystallization temperature of the ketone peroxide, and use it as a co-crystallizing compound (iii) in an amount within the 0.1-10% range. Therefore, this reference in no way teaches or suggests all the limitations of the three-component composition recited in claim 1, and the claims are patentable over Torenbeek.

The same deficiency is found in Schuurman WO '770, which does not disclose the three-component co-crystallizing compound, phlegmatizer, and peroxide composition recited in claim 1. The reference does not distinguish between a co-crystallizing compound or a phlegmatizer, nor does it teach or suggest anywhere that the co-crystallizing compound be "in an amount of 0.1% to 10% by weight of the formulation" in addition to the phlegmatizer. The compositions of Examples 1-3 of

the reference contain a cyclic ketone peroxide and a mixture of Primol 352 (at 50%, 75%, and 90% by weight) and isododecane (at 50%, 25%, and 10% by weight). The examples do not read on Applicants' claimed compositions because isododecane is a phlegmatizer, and not a "co-crystallizing compound" within the meaning of the claims, because isododecane has a melting point of -81°C and will not solidify at a temperature above the crystallizing cyclic ketone peroxide (above -30°C). (See Specification, p. 9, line 28; p. 5, lines 23-27). The Primol 352 used, even if it were a co-crystallizing compound, is not "in an amount of 0.1% to 10% by weight of the formulation." The Office Action even admits that it is "unclear if the specific species of phlegmatizer/diluents . . . actually read[] on applicant's claimed co-crystallizing compounds." (Office Action, p. 7). Again, no motivation is provided to choose (i) a cyclic ketone from the list of peroxides, and then find (ii) a compound from the list of phlegmatizers having a solidification temperature above the crystallization temperature of the ketone peroxide, and use it as a co-crystallizing compound (iii) in an amount within the 0.1-10% range. Therefore, the claims are also patentable over Schuurman WO '770 and the rejection should be withdrawn.

Meijer also does not disclose the co-crystallizing compound of the claimed invention in an amount of 0.1% to 10% by weight along with a phlegmatizer and cyclic ketone peroxide. As discussed above, isododecane is not a "co-crystallizing compound" within the meaning of the claims. Moreover, as stated in Applicant's specification, "Comparative Examples A and B [show] that the single phlegmatizer cyclic ketone peroxide formulations in either Primol™ 352 or isododecane are not safe." (Specification, p. 1, lines 10-12). Meijer's examples do not disclose a three-component composition containing a phlegmatizer, peroxide, and co-crystallizing compound in the amount recited in claim 1. Accordingly, the claims are patentable over Meijer and the rejection should be withdrawn.

The same argument applies to Stigter, which does not disclose the specific co-crystallizing compound and its weight percentage along with a phlegmatizer and peroxide in the composition recited in claim 1. The Office Action admits that it is "unclear if the specific species of phlegmatizer/diluents . . . actually read[] on applicant's claimed co-crystallizing compounds." (Office Action, p. 7). The reference does not disclose co-crystallizing compounds "in an amount of 0.1% to 10% by

weight" as recited in claim 1. Therefore, for the same reasons discussed above, the claims are patentable over Stigter and the rejection should be withdrawn.

Claims 1-7 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by or under § 103(a) as allegedly obvious over U.S. Pat. No. 6,358,435 (Schuurman '435). Applicants respectfully submit that this reference does not render the pending claims anticipated or obvious for at least the following reasons.

As mentioned above, claim 1 requires (1) a phlegmatizer in addition to the cyclic ketone peroxide and the co-crystallizing compound; (2) a co-crystallizing compound selected from the group consisting of "non-heteroatom-containing hydrocarbons, ester phosphates, esters and carbonates selected from dicyclohexylphthalate, methylpalmitate,  $\alpha$ -naphthylacetate,  $\beta$ -naphthylacetate, phenylbenzoate, ethyl diphenylacetate, dimethyloxalate, trimethylene carbonate, pentamethylene carbonate, hexamethylene carbonate, methylacetyl salicilate, dimethyl phenylmalonate, methyl p-vinylbenzoate, methylhydrogen succinate, and mixtures thereof;" and (3) that the co-crystallizing compound be "in an amount of 0.1% to 10% by weight of the formulation."

Schuurman '435 does not disclose the three-component co-crystallizing compound, phlegmatizer, and peroxide composition recited in claim 1. The reference states that "[p]referably, the composition in accordance with the present invention consists essentially of cyclic ketone peroxide and phlegmatizer," (Schuurman '435, col. 5, lines. 1-3 (emphasis added)), and does not expressly disclose the addition of a third component – a co-crystallizing compound "in an amount of 0.1% to 10% by weight of the formulation" as recited in claim 1. Instead, the reference states that "[p]referably, the composition contains 5-95% by weight, more preferably 20-70% by weight, and most preferably 30-50% by weight, of cyclic ketone peroxide, based on the total weight of the composition, with the remainder being phlegmatizer." (*Id.* at col. 5, lines 3-7 (emphasis added)). The Office Action admits that it is "unclear if the specific species of phlegmatizer/diluents . . . actually read[] on applicant's claimed co-crystallizing compounds." (Office Action, p. 7). Schuurman '435 provides no motivation for the skilled artisan to select from its disclosure (i) a cyclic ketone from the list of peroxides, and then find (ii) a compound from the list of phlegmatizers having a solidification temperature above the crystallization temperature of the ketone peroxide, and use it as a co-crystallizing compound (iii) in an amount within

the 0.1-10% range. Therefore, this reference in no way teaches or suggests all the limitations of the three-component composition recited in claim 1, and the claims are patentable over Schuurman '435.

**IV. Conclusion**

It is respectfully submitted that the pending claims are now allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited. The Commissioner is hereby authorized to charge any fees which may be necessary for consideration of this paper to Kenyon & Kenyon LLP Deposit Account No. 11-0600.

Respectfully submitted,

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